

A Molecular Journey into the World of Chloroplasts

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Plants contains chloroplasts and life on earth depends on these organelles as they fix carbon and produce oxygen. Plant cells generally contain approx. 100 chloroplasts and we are interested in understanding how cells generate this large number through the process of chloroplasts division.

Chloroplasts also perform a number of important biochemical reactions. The biosynthesis of Fe-S clusters represent one of these and we are dissecting the pathways that assemble these clusters inside chloroplasts.

Using our knowledge of chloroplast division we are also designing a new controllable genetic system to insert genes into the genome of chloroplasts which will lead to the generation of environmentally safe genetically modified crops. In addition, we are using chloroplasts as efficient biofactories for the production of biopharmaceuticals and products of commercial value.

This seminar will discuss these three research areas (for both biologists and non-biologists) and will illustrate cutting-edge technology used to further our understanding in the field.

Selected references

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